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ABSTRACT

An evaluation was undertaken of a National Teaching Improvement Project that was designed to encourage the general improvement of undergraduate teaching. The evaluation also sought to determine the effectiveness of mass distribution as a dissemination device to improve college teaching. During the first two years of the three-year project, four reports on teaching were produced and distributed and two conferences were held. Program goals included indentifying and publicizing creative and effective teachers and encouraging disciplinary associations to examine the state of teaching within their fields. The report discusses achievement of the program goals and impacts of the program in terms of the following outcomes: disciplinary reactions to the project, the effect upon the professional status of recognized teachers, off-campus reactions, requests for information, offers to distribute additional copies of the reports within their institution, reader reactions, and reactions to the quality of the reports. Information was obtained through structured and unstructured mail questionnaires, personal and telephone interviews, site visits, and document analyses. The report includes reactions from individual teachers and institutions and from the editor-in-chief of "Change" Magazine, as well as detailed information on the methodology employed in the evaluation effort. (SW).

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A Public Program to Encourage Improved Undergraduate Teaching

An Evaluation of Results

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August, 1978

In the fall of 1975, the editors of Change undertook a three-year program which in some ways was unprecedented in American higher education. With the help of the federal Fund for the Improvement of Postsecondary Education, it undertook a public program to encourage the general improvement of undergraduate teaching. Toward the conclusion of this project, a team of academic researchers from the Department of Higher Education at the State University of New York at Buffalo undertook an independent assessment of the program's strengths and weaknesses. You may find their assessment interesting and of possible significance to your own interests in American education.

Efforts to raise teaching standards in our colleges and universities have been traditionally concentrated in faculty workshops and conferences, and they have been of varying success. But the sheer facts of limited energies and time prevent participation of the vast majority of the nation's 600,000 college teachers. This public project was a first attempt to reach thousands more of such teachers within their own area of academic interest. What it gained in broad national impact obviously must be counterbalanced against the greater impact made possible by face-to-face encounters. But the results are interesting.

This evaluation deals with some central issues of weaknesses of our system of higher education to improve its own performance; of the interests of the scholarly disciplines in pedagogy; and of the general problems associated with upgrading teaching performance across the vast array of 3,200 institutions of higher learning.

We welcome your comments.

Cordially,

George W. Bonham
Executive Director

GWB/jmc

Change Magazine is the official magazine of the Council on Learning.

An Evaluation of Change's National Teaching Project

By J. Bruce Francis, with research assistance from Donald E. Barr, Steven P. Carstens, Christopher E. Bork, Griffith Jones III, Mary Lou Loucks, and Marlene M. Jagalla.

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Change Magazine has sometimes been called a maverick in higher education. Often taking a critical line against the sacred cows of academe, and using a journalistic rather than scholarly style, it has nonetheless built itself into a major force that helps shape the attitudes and practices of educational policymakers. With its National Teaching Project, *Change* once again has challenged entrenched attitudes, this time by undertaking, with the help of its first federal grant, two formidable tasks: to publicly elevate the stature of college teaching, and to evaluate fully and openly its efforts to do so.

Teaching is at once the most noble and least rewarded of faculty activities. Honored more with lip service than concrete gain, it has become a secondary activity for many faculty and often produces less pride than the completion of even the most abstruse and arcane of scholarly studies. For *Change* to employ its editorial talents and prestige to make teaching more important is a noble though possibly quixotic undertaking.

Why This Evaluation? History and Rationale

Federally funded projects are not typically evaluated with much rigor, despite legal requirements that evaluations be done and the enormous sums of money that are now spent on them. Such general negligence is due to a number of factors. Those who run the programs are often sensitive to the point of paranoia about criticism of their work, and they neither understand nor trust evaluators. Evaluators themselves are in the throes of fundamental disagreements about principles and practices and rarely agree on strategies or methods. Federal funding agencies are caught between their desire to help the programs they fund and the sometimes mindless demands of legislators and executive agencies for accountability.

Thus it is clear that when *Change* Magazine proposed to submit its National Teaching Project to "a strong, independent evaluation and to publish the results, good or bad," it was taking a risk. There was no undue pressure from the Fund for the Improvement of Postsecondary Education to make evaluation central to this project. Indeed, FIPSE was at first reluctant to have *Change* spend almost 15 percent of its final year's funds (but less than 5 percent of the entire project funds) for a process about which so many had reservations and which, in the current political context, might prove detrimental. In addition, there was no certainty that the project, as extensive and diverse as it was, could be appropriately evaluated. A major concern of project directors Richard Meeth and Joan Stableski was whether it was possible to get information about the program that would be useful to others.

The evaluation thus began with two general questions derived from consultation with the project staff, the questions most likely to provide information beneficial to others and to allow sufficient investigative flexibility and analytic depth. They were:

(1) What is the impact upon college teaching of a systematic national effort to celebrate successful teaching improvements?

(2) How effective is mass distribution as a dissemination device in efforts to improve college teaching?

A multi-source/multi-form data-gathering approach was devised to generate information, and the lines of inquiry were continually refined as the study progressed. Structured and unstructured mail questionnaires, personal and telephone interviews, site visits, and document analyses were used to secure information from as many relevant sources as possible. A total of nearly 1,400 items of information were gathered and examined to yield the conclusions presented here. In order to maintain a narrative flow and to avoid overly technical language in the presentation of the results, the description of methodology has been placed in the final section of this evaluation. (See page 22.) Our primary concern at all stages was to understand the nature and intent of the project and to expand or contract the inquiry as new evidence appeared.

What Was Evaluated? Project Overview

Any evaluation of the Teaching Improvement Project and the reactions that people had to it must be understood in the light of what *Change* in fact did. Therefore, a careful review of the project is preliminary to a discussion of its impact. Because of time and resource constraints, this evaluation deals with only the first two years of the three-year project. During that time, four Reports on Teaching were produced, each covering teaching improvements in three disciplines: Report #1 (March 1976) chemistry, history, psychology; Report #2 (July 1976) biology, English, political science; Report #3 (January 1977) economics, mathematics, philosophy; and Report #4 (July 1977) geography, music, sociology.

Each Report included a statement by George Bonham, *Change*'s editor-in-chief, and an analysis of teaching by project director L. Richard Meeth, followed by 25 to 30 articles analyzing specific teaching improvements. Articles were of two different types: Longer articles of some 3,000 words were written by prominent education writers from information gathered during a two-day site visit and supplemented with materials provided by the disciplines, the professors selected, and course participants. Shorter articles were written by other free-lance journalists, using program materials and telephone interviews. Each of the Report sections began with an overview article about teaching in that discipline written by a liaison person from the association, usually its executive director or the head of its teaching division.

From its inception in 1975, the project was guided by an advisory board of eight members: Kenneth E. Eble, professor of English at the University of Utah and chairman of the Committee on Teaching of the American Association of University Professors; Stanford C. Ericksen, senior research scientist at the University of Michigan's Center for Research on Learning and Teaching; Jerry G. Gaff, director of the Project on Institutional Renewal Through the Improvement of Teaching; Richard R. Johnson, formerly professor of psychology at Earlham College and presently director of research at the Exxon Education Foundation; James B. Maas, professor of psychology at Cornell University; Sheilah Koeppen Mann, head of the Division of Educational Affairs of the American Political Science Association; Hans O. Mauksch, formerly executive officer of the American Sociological Association; Wilbert J. McKeachie, director of the Center for Research on Learning and Teaching; and Paul L. Ward, executive secretary emeritus of the American Historical Association.

In addition to the publication of the Reports, the *Change* project involved a number of other activities, including two conferences held at the Belmont Conference Center in Elkridge, Maryland. The first convened representatives of the various disciplines to discuss how disciplinary associations could cooperate in fostering the improvement of teaching. It resulted in initiatives by several participants to emulate the work of the American Psychological Association, which had published a directory of innovations in teaching. Though a number of associations professed interest in such a project, to date no further action has been taken.

The second conference brought together a group of evaluators and directors of teaching improvement programs to develop a guidebook on the evaluation of such programs. That book, *Evaluating Teaching Improvement Programs*, prepared by William O'Connell and L. Richard Meeth, has been published and distributed. Two supplementary sets of short reports were separately produced for the disciplines of sociology and English and were widely distributed. In addition, a bibliography on improving teaching was produced and over 10,000 copies have been sent out on request. All of these materials are now in the public domain.

Under the terms of its grant *Change* was to produce and distribute 50,000 copies of each Report. In the case of the first four Reports examined here, *Change* exceeded that by at least 2,000. Table 1 shows the pattern of distribution as of January 1978. Within each discipline, copies were mailed to department heads, to members of association teaching divisions, to regional and national disciplinary conferences, and to the scholarly societies.

Table 1

Distribution of the Teaching Reports
(as of January 1978)

	Report #1	Report #2	Report #3	Report #4
Subscribers	25,295	23,047	21,149	21,349
Disciplinary Associations	14,648	12,102	9,500	9,640
Annual Meeting of the American Association for Higher Education	3,000		3,000	
Requests From Teaching Centers for Multiple Copies	8,000	9,023	11,200	11,500
Additional Requests	6,552	7,759	4,156	5,963
Remaining	205	69	3,995	3,548
TOTAL	57,700	52,000	53,000	52,000

Perhaps the most significant distribution strategy, however, was to offer free additional copies for special distribution. Over 400 individuals, institutions, and organizations responded to this offer, requesting from one to several hundred copies. Among those making such requests were over 200 teaching improvement centers, college consortia, state boards and commissions of higher education, and offices of instructional development. So great was the initial demand that *Change* was forced to limit requests to no more than 200 copies and finally to begin charging for the costs of shipping.

The Project Philosophy

In its initial proposal to FIPSE *Change* described its project on undergraduate teaching as a "national program of evaluation and reporting," the purpose of which was to publicly support and encourage good undergraduate teaching and to secure wider participation by disciplinary associations in efforts to reach similar goals.

The objectives of the project, according to an early set of guidelines to *Change*'s national network of education journalists, were to recognize some of the best, most effective efforts by faculty to improve undergraduate teaching; to provide a detailed descrip-

tion of these efforts in a readable, nonacademic style; and to encourage faculty to consider approaches outside their fields and institutions.

Early project documents made much of the emphasis on the *evaluation* of improved teaching and of careful investigation of which aspects of the teaching approaches being featured were effective and which were not. Prior to publication of the first Report, however, diverse descriptions of the project made it unclear exactly what the Reports would focus on: Would it be innovative teaching, exceptional teaching, effective teaching, or improved teaching?

In the process of determining the criteria for selection of teachers to be featured, a rethinking of earlier definitions occurred, resulting in a decision that the primary emphasis in the project was to be on "improved teaching." In the third Report, project director Meeth discussed the alternatives that had been considered (and in fact used in some of the initial documents) and pointed out why each had been discarded as inappropriate.

The notion of good teaching was rejected because it "implied some absolute standard that has yet to be identified." The term "innovative teaching" was found to mean too many different things to different people. And "unique teaching" was rejected because the term itself was inaccurate; "many excellent teaching experiences have been created many times over by different people in other settings with equally effective results." The notion of improved teaching did not, according to Meeth, require that projects have universal applicability, nor that they be complete models of effectiveness. According to the project literature, improved teaching of a course means that the professor teaches it more effectively than before although not necessarily better than anyone has ever taught it. The standard is whether a teacher has consciously changed his work so that it is "less ambivalent, more pointed and efficient."

By the publication of the third Report, *Change* had crystallized its strategy of celebrating improved teaching through highlighting the good features of specific teaching improvements; not unique innovations, nor examples of the best teaching, but of teaching which seemed to be better as a result of a faculty member's attention. Though its early proposals reflected a more elite emphasis (the evaluation of "excellent" teaching), the program allowed a more useful definition to evolve, reflecting a philosophy of remaining open to change.

EDUCATIONAL WORTH

"Too little attention is paid to the quality of undergraduate teaching in America."

"Professors lack the resource materials they need to improve their interaction with students."

"Teaching is not given the importance of research and publication."

These were the problems *Change* set out to address in its National Teaching Improvement Project, a venture with four primary goals, as outlined in the report covering its first two years:

- *to identify some of the most creative, effective teachers across the country,*
- *to ask the disciplinary associations to examine the state of teaching within their fields,*
- *to give national publicity to outstanding professors who are effective in the classroom, and*
- *to saturate the academic community with a lively, readable publication about teaching approaches shown to be effective in helping students learn.*

The extent to which these goals have been achieved is assessed here against a modified version of the project's own criteria format used in the selection of professors featured in the Reports on Teaching. There are three levels of criteria: Immediate criteria refer to the sense of the experience and include the perceptions and attitudes of those who were involved in the project either as featured professors, distributors or recipients of the Reports, Advisory Board members, or officials of the participating disciplinary associations. Intermediate criteria include ways in which the practices of the project fit logically with its goals and could be expected to lead to their achievement. This involves the Reports, an assessment of their quality, and their relationship to the purposes of the project. Ultimate criteria refer to changes that have taken place as a result of the project, insofar as they were consciously sought.

The Goals and Their Achievement

Goal #1: To identify some of the most creative, effective teachers across the country.

In a few instances, teachers featured in the Reports discovered that they were viewed as special; and,

while avoiding words like "creative" and "exciting," still expressed a sense of enhanced self-esteem. But for most this reaction was less heady and very short-lived, particularly when colleagues ignored or subtly denigrated the honor.

Change's approach to this goal was problematic. The project began with the goal of identifying the "most creative," "most effective," and the "best." But the difficulty of defining those terms, much less judging teaching efforts for these qualities in the political context of higher education, led to a major change in goals. The more modest (and eminently more realistic) goal of identifying "improved" teaching was *Change*'s response to the futility of searching for "the best."

In its selection methods *Change* relied on the disciplinary associations, few of whose officers felt able or willing to decide who were the most creative and effective teachers. Yet, clearly, being featured in a prominent national magazine as an outstanding teacher implies some degree of superiority. An unfortunate consequence of this conflict was that some readers, expecting descriptions of the best found rather more ordinary mortals being described and tended to react with skepticism or a lack of interest.

Despite the problems of definition, the project did uncover some truly creative teachers, as attested by the number of readers who wrote for more information or visited them. In a slightly different vein, the project uncovered and described some useful new teaching methods (and explored valuable new perspectives on traditional approaches, such as lecturing and field work) that have generated substantial interest.

Goal #2: To ask the disciplinary associations to examine the state of teaching within their fields.

The project neither perceived itself nor is perceived by the disciplinary associations as having initiated an examination of teaching within the disciplines. Rather it is seen as having provided a forum, a vehicle, and an opportunity for such an examination to begin or accelerate.

Seeking cooperation from the disciplines at the outset, the *Change* staff made every effort throughout the project to accommodate disciplinary concerns, tailoring the Report format and distribution system to the disciplines. Some involved in professional faculty development movements criticized this all-out attempt to involve disciplinary groups, contending that teaching is and always will be secondary to the disciplines. But *Change*'s editors believed the most successful avenue to faculty would be through the disciplines, and so that road was chosen.

There is little persuasive indication that many disciplinary associations have increased their attention to teaching, despite productive collaboration over the course of the project and the fact that associations had to examine teaching in order to participate. Disciplines where such attention flourished prior to the *Change* project, e.g., sociology, made some fruitful use of their involvement in the projects; a few individuals were profoundly affected by it but most were not, and the discipline continued its interest in teaching under a quite separate motivation. Special efforts that *Change* made to encourage further disciplinary association interest (e.g., the first Belmont conference) led to brief interest and little else. *Change* itself will continue to collaborate with the associations and will benefit from what it has learned; but disciplinary interests will most likely shift back from pedagogy to content, from teaching to scholarship.

Goal #3: To give national publicity to outstanding professors who are effective in the classroom.

To judge by all three categories of criteria, the project did give national publicity to professors who, within rather narrow definitions of the terms, were both outstanding and effective in the classroom. The clear impressions of virtually all featured professors, substantiated by the many comments they reported receiving from others, was that celebration in a *Change* Teaching Report made them somehow more visible within their fields.

The project format of mass distribution, coupled with both *Change* Magazine's national image and that of the national disciplinary associations, enhanced further the prestige that came with being selected. In addition, the selection process brought to light teachers whose work was outstanding since, formally or informally, the teachers were selected through a kind of competition. The heavy emphasis on evidence of student achievement, which guided both those making selections and those writing the articles (even when that evidence was limited to student perceptions), highlighted the teachers' classroom effectiveness. However, lack of formal standards for comparison makes it impossible to say that the most effective teachers were chosen, or that their effectiveness could be judged by how much their students learned.

Growth of the reputations of teachers featured in the Reports was neither widespread nor uniform. A few experienced dramatic shifts in their national prominence while most others could discern little difference. Those whose names became more widely known received invitations to speak at conferences and occasionally found it easier to get a publisher's attention; but virtually none received job offers from other institutions.

Goal #4: To saturate the academic community with a lively, readable publication about teaching approaches shown to be effective in helping students

"Saturating the academic community" is obvious hyperbole for the project's aim to distribute the Reports as widely as resources would permit. Strictly speaking, this goal was not realized; nor was there a sense among the editorial staff, the Report distributors, or external observers that the Reports were widely known and used as part of the day-to-day academic world. That the Reports represented "a lively, readable publication" was disputed by virtually no one, including detractors who would have liked a more scholarly or didactic style. While the magazine format offended some, far more were attracted by it.

The logic of *Change*'s approach—using its well-known format, its national mailing system, indeed its entire staff to produce and distribute the Reports—cannot be faulted. *Change* subscribers are 70 percent faculty and so were precisely the audience that would most appreciate the Reports. Distribution through the disciplinary associations, particularly to department chairpersons, was an especially effective mechanism, and offering free copies was sensible. Assessment of the mass distribution was strongly positive.

The Reports displayed a high level of technical excellence, which was a critical factor since they had to compete for attention with the overwhelming flood of material that faculty receive. In fact, virtually all observers gave uniformly high marks for quality. The group most sensitive to what was written, the teachers who were featured, were nearly unanimous in their praise for the articles about their work.

Distribution was widespread but not concentrated. Those whose business is teaching improvement and faculty who already subscribe to *Change* were most likely to pass the Reports on to their colleagues, but beyond them there was little indication of further distribution. The paucity of new *Change* subscribers generated by the Reports (a disappointment to the staff) and the rather lukewarm estimates of impact from the disciplinary societies illustrate the great difficulty of even penetrating, much less saturating, the academic community. Some evidence suggested that coupling national distribution with personal reinforcement—a kind of traveling salesman approach—could improve distribution and exposure, but much more study is needed before a definite conclusion can be drawn.

The Consequences

Beyond the direct goals of the project, and often as a result of realizing those goals, the consequences of the three years of time, effort, and money can be described and evaluated. Such analysis is an interpretation of many strands of information and, along with reactions of external observers, it represents a final assessment of the project.

The sense of the project's educational value as perceived by those involved with it comes from several different sources. No one harbors any illusions that the project has had any massive influence on the importance or the quality of teaching or on student learning. But along with that realistic appraisal goes a sense that there have been several valuable outcomes. Indeed, to expect more in as diverse a context as American higher education would be extremely unrealistic.

Advisory board members offered their views of the project's value: James Maas saw the project as a start. When *Change* pulled together a number of different teaching approaches, it created a model for the disciplinary associations to follow. Jerry Gaff and Stanford Ericksen agreed that an important contribution of the project was to divest teaching of some of its mystique. David Justice of FIPSE echoed this view in observing that the articles put to rest the myth that good teachers are born and not made. The Reports have achieved this demythologizing, according to Sheilah Koeppen and Richard Meeth, by providing a resource for new ideas which, if successful in practice, can be added to one's teaching repertoire.

Finally, the project has been valuable in encouraging the idea, buttressed by national visibility, that improved teaching is something to be rewarded. When a teacher contemplates expending effort to improve his work, he is faced with the virtual certainty that no economic benefit will result. Through the Teaching Reports, *Change* has provided support for creative efforts that will increase the likelihood of more teachers putting their ideas into practice.

One dimension of the worth of the project has been the lessons it has afforded in conceptual clarification and development. The evolution of its self-definition from "evaluation of teaching excellence" to "celebration of teaching improvement" is an object lesson in the way a project can remain open to criticism and respond to it. Central to this evolution is the careful use *Change* made of its advisory board, and its receptiveness to new ideas and procedures suggested by reader critiques. *Change*'s openness to review generated, in the project's third year, another instance of logical advance. Amid the clamor for evaluation by funding agencies and the often defensive attempts of projects to minimize it, *Change* committed itself and a substantial portion of project resources to a comprehensive evaluation. Since the project was ending, the evaluation could not benefit it directly but could provide a model for comprehensive assessment of innovative teaching improvement programs.

According to Rogers and Shoemaker, authors of *Communication of Innovations*, adoption of an edu-

cational innovation takes place in several distinct phases. It begins with a person's exposure to the innovation, which yields some understanding of how it functions. Next a pro or con attitude toward the innovation is formed, which leads to a choice to adopt or reject it. Having made the decision, an individual seeks confirmation from others or by actual trial.

A mass dissemination project such as *Change*'s operates at the first stages of the adoption process and thus can reasonably be expected to pass along knowledge of teaching improvements to Report recipients. It may in addition lead some to seek more information, develop different attitudes, or even try out a new idea; but formal adoption of the idea is likely to be rare. Print media are theoretically prime channels for opinion leaders and usually fulfill an information-giving function. For transmitting information the written word has yet to be surpassed. It is easily disseminated and the reader can refer to it readily and absorb it at his own rate.

The capacity of a national distribution system to spread ideas over larger distances than are convenient for individual travel is, during these days of fiscal exigency, one of its more attractive features. For a developmental mathematics program in Oregon to discover work being done in Palm Beach, Florida, or for an undergraduate sociology instructor in southern Arizona to read in detail about similar work in Boston, represents a unique benefit that only a national print medium can provide.

These theoretical considerations suggest that the *Change* national distribution project can be termed reasonably effective if it succeeded in exposing a substantial number of recipients to information about teaching improvements. If it succeeded in generating interest and inspiring attempts to adopt some of the techniques, then it may be considered even more successful. Finally, if it should in fact lead to changes in the teaching practices of individual professors, it could be considered eminently successful.

Evidence of the project's worth lies in the educational products it has generated, the communication network it has produced among teachers, and the profound changes it has wrought in individuals. By the end of this project, six Reports covering fifteen disciplines and one set of interdisciplinary programs will have been published. These documents are available for content analysis, for study, and for reference. In addition, the program produced two supplemental booklets, a bibliography on teaching, a booklet on the evaluation of centers of teaching improvement, and a guide to effective teaching to be published shortly by Change Magazine Press. The ideas in these documents represent an array of methods, styles, and materials, and as such provide a continuing resource for improving teaching.

Whether the substantial network of teachers who share methods and problems will grow or recede in the absence of continued stimulation is still impossible to determine. Perhaps *Change*'s plans to highlight improved teaching in regular issues of the magazine will enable the network to expand and encompass more teachers in more diverse fields.

Finally, however, the worth of the project is represented by its effect upon individuals--teachers who were featured and whose careers benefited and professional contacts increased, and teachers who read the Reports and were moved to write for information or to change their own teaching. Since it cannot be determined with any precision just what proportion of college teachers made actual changes, there is no basis for supposing that such occurrences are common. Nevertheless, mass distribution methods realistically generate knowledge and little more. When over 20 percent of even a potentially biased sample report that they have changed their behavior, it is reasonable to infer that the benefits and worth of the project have been real.

IMPACT

The National Teaching Project involved many individuals and organizations: the disciplinary associations, the professors whose work was highlighted, the readers of the Teaching Reports and those among them who contacted the featured professors for more information or advisory help, those who distributed multiple copies of the Reports, the funding agency, and, finally, *Change* Magazine itself. The following is an analytic description of the amount of impact the project had on these disparate members of the academic community.

The Disciplines

The disciplines involved in the teaching improvement project were initially self-selected. A letter went out from *Change* describing the project and asking some 40 associations if they were interested in

participating. Out of those that expressed interest, 12 major disciplines were selected for the first two years of the project, representing those academic areas most commonly a part of undergraduate education. The participating associations were: the American Chemical Society, the American Historical Association, the American Psychological Association, the American Institute of Biological Sciences, the Association of Departments of English of the Modern Language Association, the American Political Science Association, the American Economic Association, the Mathematical Association of America, the American Philosophical Association, the Association of American Geographers, the Music Educators National Conference, and the American Sociological Association.

Change included in each Report one natural science, one social science, and one humanistic discipline. Although there was some concern that the mix of disciplines was not appropriate, the project's purpose was to urge readers to seek information that could be used across disciplines. It is likely that no choice would have been immune to criticism. Since selection of the disciplines depended to a certain extent upon the willingness of the associations to cooperate, not all disciplines could be covered. Also, since only three disciplines appeared in each Report, the selection had to be limited. Another factor was the separate teaching and academic associations that exist within some disciplines, resulting in a lack of communication between those interested in teaching the discipline and those interested in its research.

Once a discipline was chosen, the associations themselves decided on the procedures whereby individual projects would be identified. A wide range of procedures was used, from a very formal "contest" to selection by one individual. Between those two extremes, different identification methods included advertisements in disciplinary journals, perusal of disciplinary association records, and publicized requests for nominations.

The Association of Departments of English of the Modern Language Association used by far the most complex procedure, beginning with an advertisement in its official publication. Those responding to the advertisement were instructed to prepare a two-page, single-spaced, typewritten statement indicating how their teaching project fulfilled *Change* Magazine's criteria; a five-page, single-spaced, typewritten document describing the teaching project and showing how it was in fact an improvement; a copy of the course syllabus; a description of the method of evaluation of the course; and a number of letters of recommendation attesting to the course's effectiveness, uniqueness, and appropriateness. Each entry was sent to two members of the association's committee on teaching and was rated before being sent on to *Change* for final selection.

A considerably less elaborate procedure was used by the Association of American Geographers. AAG advertised the teaching project and called for interested faculty to submit descriptions of their courses. Only eight individuals responded to the request with supporting materials, all of which were forwarded to *Change* since each represented a distinctive teaching approach. AAG was unwilling to rank the entries but did group them according to certain qualitative standards: degree of concern about teaching and learning, sense of wonder about using new experiences, and uniqueness. AAG later submitted a number of additional recommendations, along with a detailed matrix of how the various approaches countered many of the stereotypic definitions of the discipline.

The American Economic Association was disappointed in the response from its members to a similar procedure. G.L. Bach, then chairman of the AEA committee on economic education, subsequently turned to his own committee to make the nominations and forwarded to *Change* a detailed description of each nominated project presented in the order "of interest."

Public requests to members of the Mathematical Association of America were not successful either, according to A.B. Willcox, MAA's executive director. He would have preferred 10 times as many responses, which would have made it possible to screen some of the articles. Willcox asserted that there really were not a lot of innovative teaching experiments going on in mathematics. Those that everybody had known about in the 1960s had "just evaporated."

The American Sociological Association publicized the *Change* project three times through its official publication, which has a readership of 14,000. It received 60 responses. These were divided into five categories: "top priority," "worth knowing about," "interesting," "useful but not priority," and "this shouldn't see the light of day." Hans Mauksch, project advisory board member and liaison for sociology, thought that the association could have made a more intensive selection effort, perhaps coming up with more outstanding projects. But that would have created what he called "vulnerable expectations" in such proportion that "the negative impact for those penalized by not being chosen against those rewarded would not have been worth all the excitement it would have caused."

The American Historical Association selected its projects in a much less systematic way. Warren Hollister, vice president of the AHA teaching division, and Mack Thompson, association executive director, together identified those they thought were doing "some interesting things." Their source of information was a "finger on the pulse" of their discipline, a reliance on people they knew or had heard of.

At the opposite extreme from the highly complicated and specific selection approach of the Modern Language Association, the American Institute of

Biological Sciences chose its participants in the least systematic way. Richard Dodge, then head of the AIBS education and communications department, sent *Change* a "list of individuals involved with what I consider to be good undergraduate teaching programs at both two- and four-year institutions." These were listed in the order of Dodge's preference, and a brief description and the rationale for his choice were given. There is little or no indication of any formal involvement of the association members in the selection process.

Summary

The selection of projects within the disciplines thus varied widely. Some showed evidence of intense efforts to attract large numbers of candidates along with careful examination of their programs. These disciplines, such as English and sociology, also were the ones that generated the largest number of potential nominees. Others exhibited more limited but still concerted attempts by members of teaching committees to ferret out and analyze carefully as many different approaches within the discipline as could be related to the project criteria. The liaison persons for some disciplines, however, made what seemed to be almost off-the-cuff recommendations based upon informal communications or the personal knowledge of one or two people. In at least two instances this led to the selection of programs that seemed to one critic to be inbred and derived from the "old-boy network."

In a few instances, professors serving on the committees making the selections were also among those recommended. In the light of the varied selection process, this is not at all surprising. Nor is it necessarily bad, for as one committee member put it after suggesting that his own work be considered, "A man is a fool if he doesn't know the value of what he's doing."

Disciplinary Reactions to the Project

Those who served as liaisons with *Change* from the disciplines had mixed reactions to their involvement in the project. Mathematics head A.B. Willcox thought that the *Change* coverage was reasonable. "It certainly included a description of all of the innovative projects in teaching that we were able to uncover," he said. "We gave fairly wide publicity to it, and I would have to say it was a fair representation." While he thought that the *Change* articles had had a strong influence on the association's regional meetings, Willcox could not think of any specific instances, except for a vague recollection that the math anxiety question had come up at one meeting, and he thought that "perhaps it had been featured in one of the Teaching Reports." When asked if the association had used the Reports in any way formally or informally beyond distributing them, Willcox replied that they hadn't, and "do not have any plans to at the moment." Within the association the *Change* project and the issues it raised were dormant. "The association was involved in helping get material for the *Change* Report," he said, "and members read it with great interest, but that was about it."

Even sociology, which had distributed the Reports widely, used them in conferences, and given them a great deal of publicity, did not see them as having had a significant direct impact. To Hans Mauksch, the Reports were part of a multilevel program in the association for making teaching more important, one part of some eight to nine thousand pieces of material being made available to sociology faculty. As a resource, the Reports made a contribution, but only at the initial level of his association's "very political" project involving professors in organizing and developing strategies for action.

Edmund Worthy, assistant executive director of the American Historical Association, suggested that the articles conveyed a sense of the excitement going on in the discipline. He was concerned about the "piecemeal nature of the *Change* approach" and characterized the Reports as more impressionistic than thorough. But he thought that a more accurate picture of what is happening in history would be very difficult to obtain since even the association does not have that kind of information. Worthy was unaware of any impact that the Reports had had. He did not recall any reaction, even an informal response to the publication of the Reports.

Theodore Tellstrom of the Music Educators National Conference was unaware of any formal use of or reaction to the Reports within his discipline. He believed that the Reports were helpful to the association because "the magazine does travel the gamut, particularly in higher education," and therefore he thought that other disciplines "appreciate what we are trying to do."

It appears safe to conclude that the project had relatively little lasting effect upon the disciplinary associations. Due to rapid turnover of association staff members, it was not possible to assess the effect on all participating disciplines, and several of the *Change* staff thought that at least a few of the disciplines were in fact strongly affected by their involvement. But it is reasonably clear that *Change*'s objective of making an impact on the disciplinary societies was not met. Advisory board member Wilbert McKeachie, commenting on his own discipline of psychology, noted that *Change* simply does not relate to professors through their disciplines. "A typical psychologist," he said, "would not know anything about any of the people" in the Reports. "I suspect," he concluded, "that a large number have never seen the *Change* Report. Thus its impact on psychology is much more limited than it could have been." Much the same could be said for the other disciplines as well.

The Professors

Reactions received by professors featured in the Reports came from both inside their own institutions and from the wider academic community. These reactions were reported to us in personal and telephone interviews and through responses to an open-ended mail questionnaire. Over 60 percent of the professors featured in the first four Reports described their experiences.

By far the most frequent reaction to the article about a professor's work took the form of letters from the president or academic vice president of the institution, letters seen as universally warm and positive. The president "took the time to write me a nice letter," said one professor. Presidential letters praised the professor for "bringing national recognition beneficial to the professor and to the college," and for "offering unique educational opportunities to students." One university chancellor invited a professor to present a paper at a European conference.

Teachers who received such congratulations valued them as one of the more important rewards for having been featured in the Reports. As one put it: "Personally, the recognition from *Change* Magazine gave me a pat on the back for my teaching efforts at a time when I particularly needed it." Another commented, "I think I have received more comments from colleagues, administrators, and former students about the article than about anything I have done. Even the furnace repairman wrote me a letter after reading about it in the [college] newspaper." Another commented that his program had been recognized by the university as a successful project and that students associated with it experienced a great boost in morale.

Beyond such official letters (which may have been triggered by an announcement of the article sent from *Change* to the president of each institution whose professor was featured), the reaction on campus was mixed. One professor commented, "The general reaction on this campus has been one of congratulations. But no one has offered to run me for Congress yet." Others reported that the article was essentially ignored. As one put it, "None of my colleagues mentioned the article, although copies of the Report were circulated to each." "Restrained" was the word used by one featured professor to describe the reaction of his colleagues. "Mixed, mostly negative, or no acknowledgment of its existence" was the experience of another. From a professor in a research-oriented department came the comment that "time has neutralized [colleague reaction] from

The Professors: Pat Jordan at Colorado State University

When the BioCO-TIE program was featured in Report #2, it was already a comprehensive and very successful venture in the eyes of the National Science Foundation and many biology people around the country. Colorado State University (CSU) and the 14 participating two-year campuses had developed a vastly improved package for their core curriculum; and they had proved that a large research-oriented university could work with two-year institutions.

Did the article add to the success of the program? According to Pat Jordan, an established, persuasive biologist and the key person from CSU working on BioCO-TIE, the article provided "the capstone to an already completed, successful, and highly profitable [in terms of usefulness] kind of program." According to Frank Vatano, dean of the College of Arts, Humanities, and Social Sciences, the article represented "a ribbon on the present—they had arrived." They both now think that as a direct result of the article CSU is known as one of the leading institutions in the nation in the teaching of biology.

Frank Abbott, Colorado's commissioner of higher education at the time the article was released, had a similar view. "I now view CSU as a leader in the state in using innovative teaching ideas," he said. "The article adds one more arrow to the quiver because it came from a third party and was chosen in a national search. The recognition is something to be treasured." Jordan suggested that the recognition "gave the program a credibility that it never would have had otherwise."

Jordan and Vatano said that before the article they had gone to different parts of the country conducting a "song and dance road trip" publicizing the program for those who requested it; thus, it had already had some national visibility. "Now," says Jordan, "we have communicated with people we never would have if the article had not come out in *Change*." They had had requests for information from Florida to Alaska and most states in between. Visitors came from Mexico, Iran, Iraq, Brazil, India, the USSR, Venezuela, Italy, Japan, England, and Israel. The Mexican government wanted to do a Spanish sound track on many of their materials. The number of requests and visits picked up considerably after the article was published.

The article had an impact in other ways also. Jordan points out: "The consortium of institutions [the two- and four-year institutions involved in using the BioCO-TIE materials] has been strengthened by the article. Even though the program no longer receives federal funding, the consortium has continued to meet on a regular basis and to function well." Garnie Johnson and Willie Gore, the teachers from Northeastern Junior College in Sterling, Colorado who originally discussed the idea with Jordan, believe that the article brought the group closer together. They and Jordan presented a picture of a group of professionals working together, gaining national recognition, and being

being hostile to being merely suspicious." One professor who received congratulations from various individuals in the college administration had heard "not a word" from his conservative department chairman.

Psychological benefit, a feeling of importance and of having accomplished something of worth, seems to have been the major benefit derived by featured professors. It is unfortunate but probably inevitable that at a few institutions the consequences were negative. Featured professors noticed with chagrin when their own colleagues ignored the project, or, as one put it, when faculty within his department responded "almost jealously." But such negative experiences were not widespread and the overall reaction seems to have been positive.

Effect Upon Professional Status

An overwhelming majority of the professors reported that being featured in the Reports had no effect on their professional status. But several did describe changes that seemed related. One had been asked to do workshop and seminar presentations that "established an aura of credibility" for him, "a kind of expertise within the establishment." Another commented that his reputation had changed somewhat, from that of a fairly abstract scholar "whose tastes ran to the arcane" to someone who can both teach and publish.

Not all changes were beneficial, however. A department terminated one featured professor in spite of the article in the Report. He had been one of only a few faculty devoted to teaching full time, and his department apparently was not interested in establishing a separate teaching faculty. "Recognition of accomplishments in teaching," he said wistfully, "does not carry much weight among the faculty in research-oriented disciplines."

There were several, however, whose careers changed substantially as a result of having been featured in the Reports. One who had not been recommended for reappointment was given another probationary year after the article about his work appeared. Three others were promoted to tenured positions, and one was asked to take on half-time administrative duties as director of undergraduate studies. Another received a merit increase and promotion partly if not largely as a result of the article. At least four professors thought that being featured had helped publication or sale of their textbooks.

Peter Facione of Bowling Green State University and his colleague Donald Scherer, featured in the third Report, told three publishers about the Report while trying to persuade them to publish a textbook

strengthened by their success and recognition.

Ruth Johnson, another biology instructor involved in developing the program, said the feeling was, "Hey, this is really legitimate." This feeling among the group also served as a catalyst in spreading enthusiasm for the program to others in the state. The group now feels confident, according to Gore, that since they were successful they will meet with success in future endeavors. In fact, they have started working on another project that they expect will be costly, but they are confident they will receive adequate funding.

The Office of Education Media (OEM) at CSU played a key role in providing the technical expertise for the BioCO-TIE materials. Preston Davis, director of the OEM, comments, "I don't really know if the *Change* article had anything to do with this, but we are being looked at more and more as a leader in the field of instructional media."

After the 1976 article Davis was asked to contribute to a four-part series in *Technologist Horizons in Education*. He was described in that journal as an "innovative leader in education media." In a 1977 publication, *Communications Technologies in Higher Education*, CSU is described as "the king of the videotape users." Davis believes that the *Change* article aided in this national visibility. Further, Davis says, "The exposure definitely allowed OEM to assume a posture whereby we didn't have to sell our advantages to professors on campus."

Davis has shown the article to state legislators so they can see and appreciate how the university is spending tax money. He believes this was helpful because legislators often consider educational media a "frill." He described an incident in which the CSU campus was visited by a joint budget committee of the state legislature and by the interim committee on higher education. They saw the BioCO-TIE materials and the national recognition the program had received in the Report; and Davis thinks they left impressed that CSU was taking a leadership role in media resources in the state and the nation.

Frank Abbott summed up a major impact of the article. "When the articles were coming out there were state legislative questions as to whether the funding that was going into BioCO-TIE and educational media was worthwhile. Also, among the other two-year colleges, there were academic concerns at the legislative level about whether the university would become dominant in shaping the curriculum.

Although *Change* can't be credited with clearing the whole thing up, with the passage of time the article had a very salutary effect on the legislative understanding of some of the administrative funding of CSU; and it was made clear that CSU as the leader wasn't shaping the curriculum alone, but that there was a lot of cooperation with other institutions of the state." —DEB

based upon their work. "I think," said Facione, "that we gained quite a bit of credibility with the publishers because *Change* had thought enough of the approach to give it some attention." It was especially helpful with the first publisher, who was afraid it would be risky to publish a book that used rather standard pedagogy in a non-standard area of philosophy. About 60 other schools have contacted Facione or his colleagues about aspects of their work, "mostly as a result of the *Change* Report, though sometimes because of some of our subsequent publications."

Most of the courses taught by featured professors remain much the same or continue to develop in the way they had been developing when the articles were written. Changes that were noticed by some of the professors included a good deal more legitimacy within the institution as a result of national publicity. Someone from outside had recognized the validity and importance of what was being done, which in a couple of cases was helpful to the program in achieving support from colleagues and the administration. One professor said, "It sort of made us acceptable in the academic community." Another commented, "It has helped to legitimize and validate the nature of our experimentation." This had an important effect on the staff, who now "perceive themselves as more significant educationally and institutionally."

Off-Campus Reactions

It was from outside their own institutions that most of those featured in the Reports received the greatest attention. National mass distribution seems to have brought their work and their accomplishments a great deal of publicity which they would not have received if *Change* had not published the descriptions. Featured professors each received from 1 to more than 100 letters from outside their own campuses congratulating them and asking for information. These reactions more than anything else made the experience worthwhile for them.

Lois Beishir of Antelope Valley College in La Costa, California, was "astounded" by the reaction to the article about her work. She received many written requests for further information and also had "several classroom visitors as a direct result of the publication of the article." The overall impact, she thought, was that her national and even international recognition has been increased greatly. Sales of a book about her biology laboratory course "have

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The Professors: William Burke at WCLA

Gratitude for the opportunity was William Burke's predominant reaction to having been featured in Teaching Report #2. The article, he said, gave his Washington Center for Learning Alternatives (WCLA) the credibility it needed to "succeed in our mission." Bill Burke is a young, adventurous academic who left a secure post as head of the internship program at the University of Massachusetts at Amherst, borrowed $200,000, and established a nonprofit, independent educational institution. WCLA's undergraduate student internship program was described in a brief article in July 1976 in the section on political science.

Since then the program has developed dramatically. "During the past two and a half years," said Burke, "the program has grown from 25 to over 200 institutions from 47 states. In fall 1975, we were assisting 53 students. In the spring semester of 1978, we had 210 students. In this fiscal year, WCLA will have a balanced budget and will have completely amortized all its start-up expenses." A good deal of this growth can, in Burke's view, be attributed to the national exposure that *Change* and FIPSE provided.

"In the beginning, a lot of institutions would call other institutions and say, 'Who is this guy Bill Burke? What is WCLA? Do you think they are legit?' " After the publication of the article WCLA made 4,000 copies and sent it out along with other material about the program, thus bolstering the organization's credibility. "I think the program would have grown without the article," said Burke, "but not as fast. Besides, it's always great to be recognized. Young organizations need recognition—not only for the credibility but also to realize that other people are noticing their work. The article was of tremendous help in making us acceptable to the academic community."

Besides credibility, the article gave visibility to the program, as evidenced by letters from 50 people at universities and colleges around the country, all of whom had seen the article and requested further information. In addition, more than 100 people have greeted Burke at conferences and mentioned seeing the article in the Report.

Before the article was published, WCLA had not received any significant funding from foundations or corporations. Since then, however, it has received assistance from foundations and corporations totaling $184,000. "Every time I went to a foundation looking for money, I brought a reprint of the article and presented it. Whether they read it or not wasn't important. It was the fact that *Change* had chosen us. And I'm sure they were familiar with the Reports on Teaching and knew that those chosen formed a select group."

Burke and his associates at WCLA firmly believe that the article had a positive impact on their program. Being featured in the Report allowed an alternative, viable, and valuable undergraduate learning experience to grow and prosper at an accelerated rate; and it was successful in fostering the art and concept of field experience education. Burke thinks that FIPSE should be applauded for funding the program and hopes other foundations may start similar projects. "There is not enough said about the good things happening," he said.—DEB

Requests for Information: Palm Beach Junior College

When Richard L. Travis was recognized by *Change* Magazine for his work with individualized learning in mathematics, it reinforced his visibility as a proponent of and practitioner in developmental mathematics. In the 15 months since Travis was highlighted in the January 1977 Report on Teaching, he has been further acknowledged as a prominent innovator in math instruction. Campus and local newspapers reported that he had been selected by *Change* Magazine as an "outstanding college teacher"; and his own administration at Palm Beach Junior College, location of his Math Learning Center since 1962, sent him a congratulatory letter.

But the most heartwarming recognition of his accomplishments has come from his colleagues across the country. Yoon Byunn from Shelby State Community College is one such appreciative math instructor. In a letter to Travis he wrote: "I have read with great admiration your article. I would like to congratulate you on your success in individualization of the developmental mathematics course." Other colleagues initiated correspondence in the hope of finding solutions to nagging problems. Faced with a large number of students who lacked the necessary skills to succeed in college-level mathematics, Harold Stephens from Memphis State University wrote to Travis: "Perhaps the program that you direct is the answer to some of our problems with those students." Dennis Paul from Medgar Evers College reflected the feelings of many inquirers when he wrote: "Your program seems to offer many possible solutions to our problems."

While serving as a troubleshooter for some, Travis was most often asked to provide a complete description of policies, procedures, and materials used at the Learning Center. Mary Jane Meincke of D'Youville College wrote, "What I am interested in is some very practical advice about setting up, equipping, and staffing a math lab." In all, Travis corresponded with 27 people, providing them with data, outlines, program descriptions, and answers to specific questions. Travis's responses were informative and encouraging. Many letters ended with his personal plea for cooperation: "Should you have any questions, please feel free to call, write, or visit. I think all of us in mathematics are having the same problems. That's why the exchange of ideas is helpful."

Although Travis is enthusiastic about sharing information through correspondence, he prefers personal contact as a means of developing meaningful dialogue. It is not surprising then that he has encouraged many to visit his Learning Center. Eight people described their experiences to us.

Visitors were first given a tour of the facilities and a general explanation of how the lab was used. Following this, a member of the center staff would describe the specific instructional procedures and present the materials used in the course modules. Next, visitors were left alone to observe the teaching/learning process. Guests would typically interact with the staff and students, hoping to understand the pluses and minuses of such an operation. Finally, Travis would meet privately with the visitor to review the day's activities, to answer questions, and to discuss how the principles learned could be applied at the guest's home campus.

How did visitors react to this experience? All were pleased with their trip to Lake Worth. Sue Schiller, from the Learning Skill Center at the University of Pittsburgh, said, "I evaluated his program in terms of how I might incorporate it into my own program." Although her program has turned out to be distinctly different, Schiller admitted that the meeting with Travis had been a positive experience and was instrumental in giving her the confidence to go ahead with her plans for a math workshop at the University of Pittsburgh.

Administrators were also attracted to Travis's developmental math program. Robert Marcus, dean for undergraduate studies at the State University of New York at Stony Brook, visited the center in search of a way to remedy math deficiencies of minority students enrolled in a special engineering program funded by the Sloan Foundation. Marcus was most encouraged by the fact that rather than relying heavily on advanced instructional technology, the Palm Beach approach emphasized pencil and paper exercises and programmed mastery learning.

Mathematics instructor Robert Fray from Furman University visited Travis after hearing that he had "the best mathematics laboratory in the Southeast." With seed money from a Kellogg grant, Fray hoped to establish a lab that used a competency-based approach to precalculus math. After the visit, Fray admitted, "We completely changed our ideas from what we had originally planned. Travis's ideas were more simple, less machine oriented, and placed greater emphasis on personal contact with the individual. We were very impressed with Travis, his work with people there, and what he knew about developmental math. He would be the first person we would go to if we had a question or problem."

All told, Travis has received more than 30 inquiries (letters and phone calls) from all over the country, a large number of which have come from schools in the Midwest. Travis suspects that this trend is largely due to the fact that remedial and developmental math have been used in ongoing programs for some years on the West Coast and in Florida but are just now being adopted in areas such as the Midwest.

From Travis's viewpoint, the experience of being highlighted in the *Change* Teaching Report has been most rewarding. "I was very pleased with the responses, and from them realized that *Change* is circulated in a great many areas. No one method of dealing with students is suited for everyone or every college curriculum, but diversity, communication, awareness, and change are certainly needed to meet the needs of an ever-changing society and the student within it."

Evidently Richard Travis has been and continues to be a powerful influence on an emerging national interest in developmental mathematics. Being featured in one of the *Change* Teaching Reports has broadened and intensified his influence on the design and improvement of math laboratories throughout the country.—SPC

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increased threefold." "I am," she concluded, "an author of some renown now but I still cannot express how much the *Change* article has benefited me."

Charlotte Mecke, who teaches a special English course called How to Survive in College, at Orange Coast College in California, was thrilled by the letters she had received from all over the country. "These are all little notes from human beings who do not attach themselves to an institution, and God knows where they found the article. I have mothers from Michigan writing about their daughters in college in Kentucky, asking me if I could please go to Kentucky and help their daughters.

"I received letters from the Department of the Army, the Rockefeller Foundation, and Security Pacific National Bank. They are writing me and asking me how I could help them. The bank wanted me to come and help them teach their employees how to follow directions. The Army wanted me to come and train their ROTC instructors." Asked how she would respond to these requests, she said, "Teaching is my love. I would have to take a leave, and I don't know if the district would give me a leave to do that. I think it would be exciting personal growth for me, but with a full teaching schedule, how could I travel?"

Requests for Information

A sample of Report readers who contacted a featured professor were asked in an open-ended questionnaire where they had heard about the project, what led them to request further information about a course or program, and what they did with that information. The responses yielded a picture of the spread of ideas about teaching improvement.

In virtually all instances the person who recalled having written for information was seeking to solve a specific learning problem or to alter a teaching method. Typical comments were: "I am in the process of developing a course of the type described." "I am always anxious to explore potential and fruitful new methods of instruction." "I am interested in teaching methods for my own improvement and because, as someone in education, I think I should be well informed. I am also interested in faculty development." "The description sounded interesting." "I was interested in the programmed instruction and in computer games." "The Report dealt with a plan for teaching the research paper in freshman composition; since most aspects of composition courses are notoriously difficult and success was reported with a particular technique, I believed I would learn something and in turn my students would profit." Some were led to request further information by "the attractiveness, relevance, and practicality of the Report." One professor said that he had requested information because the development of modules for a science course described in the article appeared to be a good model for his course in educational psychology and counseling.

Of the professors who wrote for more information, 53 percent passed on the information to someone else, usually to colleagues in their own departments, administrators, students, and members of their disciplinary associations. In most instances the requests for information were filled by printed material prepared by the professor.

One typical experience was that of James Allen of the department of geography at California State University, Northridge. He wrote to David Lanegran of Macalester College in St. Paul, Minnesota, whose article on urban geography had been published in the fourth Report, because it looked like the sort of approach that he could adapt to any location to illustrate various geographic themes and observations of landscape evolution. He received from Lanegran an "excellent and provocative outline and a highly detailed field trip guide to the city of St. Paul." He was impressed by the planning of the field trip and the sense of discovery stressed by each student. He made copies of the material and showed it to a few colleagues. "They haven't used it directly yet because of heavy workloads and because the materials are not directly applicable to Los Angeles," said Allen, "but it sure was inspiring."

Lester Basinet of the Community College of Philadelphia had read about the audiotutorial program developed at Purdue University by S.N. Postlethwait (Report #2) and was himself in the process of developing a similar program for instruction in introductory biology. What interested him was the evidence that encouraged Postlethwait to claim that students get persistently higher grades with his method. He received an enthusiastic reply from Postlethwait indicating that the evaluation was subjective and confirming the point that comparative evidence from controlled studies had not been drawn. To Postlethwait's excellent evidence of favorable student acceptance, Basinet supplied data showing increased learning with the method and used the information in a doctoral dissertation. In some instances, visits to the colleges were made by those seeking information, often with very good results.

A sample of more than 100 letters received by professors was analyzed for the distances from the featured program which they represented. Some letters traveled less than a mile (campus mail) while others came as far as 13,000 miles (from Australia). Eighty-nine percent of the letters came from out of state with a median distance of 652 miles, probably because visiting or telephoning was too expensive at that distance.

Report Distributors

Those who responded to *Change* Magazine's offer and requested multiple copies for distribution at

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Report Distributors: Azusa Pacific College

Azusa Pacific College sits in the midst of a typical suburban shopping center at the base of the San Gabriel Mountains to the east of Los Angeles. Begun as a Bible college, the college changed its orientation in the mid-1960s when it merged with Los Angeles Pacific College and Arlington College. Currently its 80 full-time and 30 part-time faculty (all of whom still sign a statement of faith) aim for a balance between providing students with a Christian liberal arts education and preparing them to work in professional areas such as nursing, business, music, physical education, and teaching.

Faculty development at Azusa, directed by James Holsclaw, employs both teaching consultants and collective approaches such as seminars and workshops. The program budget is just over $70,000 per year, with almost half of that coming from a Lilly Endowment grant. Such a budget is none too generous for the ambitious program that Holsclaw has designed, and the fact that the Teaching Reports were available free of charge was a reason for his decision to use them.

When he received a letter from *Change* offering multiple copies of the Teaching Reports, his immediate reaction was, "I want to get this into the hands of faculty." He thought the models of excellence being presented would serve as an inspiration and be a catalyst to get teachers thinking about their own work and how they might improve it. He ordered 50 copies of each Report and sent one to every faculty member in the featured disciplines with a note from the faculty development center.

For this interview Holsclaw arranged a meeting with six members of the faculty to whom he had sent copies of the Teaching Reports. Our discussion centered on the reactions to the Reports. Dave Carlson, a professor in the biology department, limited his reading to the articles on biology in Report #2. One dealt with a modular program for handling an increased student load, which triggered his own search for other learning packages. He tried some and found them useful in giving students a preview of what would go on in the lab. He had looked through the Report's table of contents, found articles that he thought would be worth reading, and decided to skip the remaining articles because "the priority on my reading drops when it gets outside of my discipline." When an article did not meet his immediate need, it was put on the "to-be-read pile," where it stayed.

Fred Schackleton, a professor in philosophy, read the introductory article on philosophy by J.B. Schneewind, chairman of the American Philosophical Association's Committee on Teaching, because he knew him from conferences they had attended. The fact that Schackleton recognized the name of the person who wrote the overview led him to look with more interest at the articles in that section. He also read an article about Walter Coole of Washington state and soon after was at a conference at which Coole made the main presentation. This confluence of people he knew led him to take a greater interest in the Reports.

For Malcolm Robertson, who teaches psychology and religion, the articles reinforced some of the things he was already doing. Having moved from graduate to undergraduate teaching that semester, he had some serious questions as to how he could handle the large classes he was facing. In particular, the section on psychology provided valuable insights for relating effectively to students in a large group. That perspective led him to conclude that the techniques a teacher uses are less significant than "where he is coming from, how he cares about the students, and his desire to really help them learn and inspire them." Others agreed that one of the most beneficial themes presented in the Reports was that teachers seemed to care for students as individuals.

The Azusa faculty did not seem to be aware that a major purpose of the articles had been to celebrate teaching improvement. They viewed them strictly as sources of information, which was given a low priority when not specifically relevant to their own work. Had they viewed them as Holsclaw intended (as models of excellence), they agreed they might have read them more diligently. Dave Kirk, who teaches in the education department and works as a teaching consultant to other faculty, said that he would have reacted differently to the articles had he known they were intended to celebrate teaching improvement. "We are critically interested in training teachers," he said, "and the information would serve a useful purpose."

None of those present had discussed ideas in the Reports with their colleagues. This contrasted sharply with their reaction to a series of films highlighting great teachers, which had been presented at earlier faculty meetings and had generated a lot of discussion. One faculty member attributed the different reaction to "an idealistic streak" that held his interest in the films but not in the Reports. "I wanted the Reports to challenge me, to be more provocative. When I am interested in thinking about teaching and in developing models, I want to follow the best." Professors presented in the Reports seemed to him too typical.

After the meeting Holsclaw was somewhat disappointed. He had hoped that the faculty would see the *Change* Reports as examples of excellence, that they would give to faculty "models on the cutting edge." What he had heard from his faculty was that they had not read them or had simply glanced through, picking and choosing specific techniques that had been of immediate help. They did not perceive the teachers featured in the Reports as being extraordinary. He had wanted faculty to make these Reports part of their discussions, but the impression he received from the conversation (which was in fact the first evaluation he had done of the impact of the Reports) was that faculty had done so only rarely and never formally. At the end of the discussion, one of the professors commented, "Now that you've come to talk with us about the Reports, I'll make it a point to go back and read them more carefully."

Perhaps national mass distribution requires a kind of traveling salesman, someone to meet with recipients and ask for their opinions of what was distributed. Finding out that faculty had not read the Reports thoroughly may not be as important as making them aware that someone is interested. Personal contact may be the catalyst for generating interest.—JBF

(*Continued from page 14*)

their institutions were interviewed by telephone or were asked to respond to an open-ended questionnaire about their reactions. They had very much the same expectations and hopes for the Reports that the project staff had—that the Reports would contribute to the national debate on teaching, stimulate discussion, raise the level of consciousness about teaching, and lead some faculty to try new approaches.

A majority of those who distributed the Reports within their institutions were impressed with them and hoped that *Change* would continue to publish them after the project ended. As one commented, "The Reports are worth doing, information is extremely important, and there should be incentives for faculty to report their ideas outside of the formal award system." Another hoped *Change* would continue the project because it is "a primary way to put models of excellent teaching in the hands of professors." To most the Teaching Reports represented "the same first-rate job that *Change* has always done," and though one felt that *Change* had become more staid and more establishment-oriented since the 1960s most of those who distributed the Reports had been supporters of *Change* before the project and, if anything, continued to be.

Given their expectations, it is significant that for the most part the distributors were unable to describe clearly the impact the Reports had. One distributor, a provost at a small liberal arts college in the Northeast, commented that he received from faculty a "vague approbation and a sense of having somehow kept up with a few things but very little sense of having been inspired to the point of action, much less change." He believed that the reaction resulted "from the very broad range of innovative practices covered and from the lack of any single point of view vis-à-vis those new practices." The

Report Distributors: Stanford University

Whatever Stanford does, it does intensively, including participating in the Teaching Improvement Project. Three Stanford professors were featured in an article in the Reports; another who served as liaison for the economics disciplinary association wrote an overview article; and the Center for Teaching and Learning mounted an extensive program for distributing and using the Teaching Reports.

Funded by the Danforth Foundation, the Center for Teaching and Learning was begun to help the Bay Area colleges and universities in California. Its primary concerns are fostering cooperation and exchange among the institutions by conducting workshops for both new faculty members and those in mid-career. Center director David Halliburton is a professor of English, modern thought, and comparative literature who in recent years has become involved in the faculty development movement.

Under Halliburton's leadership, the center seems to have substantial influence with the Stanford faculty, who serve as its resources. Because he is affiliated with the English department rather than with the education department or an educational research center, Halliburton can maintain close ties with his own department and with faculty in other disciplines. He approaches the problems of faculty development and teaching improvement from an intellectual standpoint, and is somewhat contemptuous of gimmicky technology and expensive audiovisual innovations, which "are almost never used for the purposes for which they are intended." In contrast, he prefers to focus on direct interaction with faculty, engaging them in careful consideration of their work.

The center requested 100 copies of each Report. In addition to being used for the Danforth workshops, they were distributed to faculty whose disciplines were featured. The procedure for this involved a memorandum sent by then associate director Jean Fetter from the center to faculty members in the discipline offering them the opportunity to receive a free copy of the *Change* Report, which contained "analysis of some of the most notable improvements in American undergraduate teaching." Less than a month after Report #2 was distributed, it became necessary to send a second memorandum indicating that the demand for the *Change* Report had been greater than the supply and asking that faculty borrow copies from colleagues.

There has, however, been no spontaneous comment on the Reports from Stanford faculty and as yet no concerted attempt has been made to ascertain their reactions. Michele Fisher, the new assistant director of the center, asked some faculty about the Reports informally. She learned from the economics department that "when the Report came out it was widely read in the department and was a subject of conversation." In addition, a student in a course for teaching assistants had "read the report and found it useful."

On April 15, 1977, a center workshop held at Stanford for Bay Area faculty used as its discussion basis Report #3, which featured economics, philosophy, and mathematics. Halliburton said he used the Reports because he thought their quality was high and the ideas on teaching were fresh. He hoped that by using the Reports he could raise the consciousness of the faculty participants, focus their questions on new ways to approach teaching, and give them something concrete on which to base their discussions. The conference began with a panel presentation followed by three concurrent workshops that featured deeper discussion based on the Reports.

Michael Bratman, a young professor of philosophy, was a copresenter at the conference along with James Friedman of the University of Santa Clara. He reported that many conferees were not very impressed with what they had read and commented that there wasn't much substance in the Reports. As a result, the discussion veered off to more general topics.

Although Bratman assessed the workshop as being only marginally successful, he did think that bringing faculty together to share experiences and gain support from each other was valuable. The *Change* Reports, he said, served as a catalyst for discussion though the conference did not focus on them.—JBF

dominant impression, though not documented by specific examples, was that most of the distributors were not sure what impact the Reports had, and they had not formally collected information on it. One distributor who had hoped for greater cooperation from his faculty in structuring curriculum and teaching as a result of the Reports found that "as always with this college, my expectations were dashed to the ground."

One dean of instruction, who coordinated the distribution at his liberal arts college, was highly in favor of the concept of the Reports, feeling that the idea was good, had tremendous potential for providing information on teaching, and was needed as a facilitator of change. He felt that another 100 copies, which he could not get because of *Change*'s 200-copy limitation on distribution, would have made a significant difference in the kind of distribution he could have carried out. He felt as well that there was a definite need for some kind of follow-up to help those receiving the Reports make better use of them.

The following examples illustrate the various ways in which the Reports were used:

After faculty read the Reports, plans to alter a curriculum at one liberal arts college were modified drastically to stress teaching.

A small grants committee at a large university used projects mentioned in the Teaching Reports as models. Projects similar to those in the Reports were more likely to be funded.

At one state university in the Northeast, the Reports are used as source material for doctoral students studying the teaching-learning process in a department of higher education. At another major graduate center, the Reports are distributed routinely to graduate teaching assistants who use them as resources for improving their own teaching.

The central administration of the State University of New York distributed the Reports to persons who had received teaching awards or faculty grants for improving instruction.

The University Center in Virginia, a consortium of 15 area colleges, held a series of seminars for its member institutions, using the Reports as resource material. Each seminar ran for a full day and included discussions based on each article in the Reports. "No other seminar we have held," center director Kenneth Erfft said, "came near providing the stimulation and participation in discussions of teaching as have these first two Reports."

The Great Lakes Colleges Association distributed the Reports to its 12 member institutions, which passed them on to faculty at individual campuses.

Conferences on teaching improvement at New York University and a conference on educational computing in minority institutions requested copies of the Teaching Reports for use in their activities.

Extended case studies of the impact of distributing multiple copies of the Reports (Stanford University and Azusa Pacific College) further illustrate the project's impact.

The Readers

The information presented here is derived largely from an analysis of approximately 500 returns to a structured mail questionnaire filled out by those who received the Reports through subscribing to *Change*, requesting a single copy, or from someone who distributed copies within an institution.

As Table 2 shows, the largest proportion of recipients typically read only the articles in their own disciplines (45%). Twenty-three percent reported having read a few scattered articles throughout the Reports, and 21 percent reported having skimmed the articles. It was unusual for an individual to read only one article (3%) and only a small percentage read all the articles (8%). Some important differences occurred among different groupings. Those holding joint faculty/administrative positions tended more than other groups to skim the Reports (29%), to read a few articles (30%), or to read all ar-

Table 2

Reading of the Report Articles*

	Skim	One	Few	In Discipline	All
	%	%	%	%	%
ALL RECIPIENTS	21	3	23	45	8
Position					
Faculty	20	3	23	48	7
Administrator	17	6	12	54	10
Joint	29	3	30	22	16
Rank					
Lecturer/Instructor	11	2	21	60	7
Assistant Professor	17	3	26	43	6
Associate Professor	19	5	17	54	5
Full Professor	23	4	19	43	11
Field					
Natural Sciences	19	4	19	50	8
Humanities	15	4	20	56	4
Social Sciences	20	3	17	51	10
Professions	29	3	33	24	12
Institution Type					
Public	20	2	23	43	12
Private	21	4	23	46	5
Institution Size**					
Small	30	4	24	38	4
Medium	19	5	20	48	8
Large	17	1	23	49	11
Giant	15	2	29	44	10
Super	32	3	16	35	14

*Percentages may not equal 100 due to rounding.
**These categories are taken from Harris, Seymour E., *A Statistical Portrait of Higher Education*. New York: McGraw-Hill, 1972, pp. 62-68.

ticles in the Reports (16%). Fewer of these individuals read articles in their disciplines, suggesting that those holding joint faculty/administrative posts were more attuned to looking across disciplines for information about teaching. Those holding only administrative posts tended more to read articles in their discipline (54%), suggesting that it is through their disciplines that administrators remain in touch with the academic world.

Significantly larger proportions of those in the professions, such as engineering, law, or education, skimmed (29%) or read a few scattered articles (33%), and relatively fewer read all articles in their discipline (24%) as contrasted with those identifying with the natural sciences, the humanities, or the social sciences. This suggests that faculty in the professions tried to draw information from a number of different fields for use in their own work. Recipients split almost 50/50 on the intensity with which they read the Reports. Fifty-three percent read them with the intensity similar to reading a professional book, and 47 percent said that they read them as they would read a novel or a popular magazine. The sharing of the Reports with colleagues (a primary objective of the project) continued informally 68 percent of the time, as shown in Table 3: Twenty-five percent passed the Reports on to others, 36 percent discussed ideas in the Reports, and 4 percent wrote and 3 percent circulated something about the Reports.

Faculty more than administrators or persons holding joint appointments tended not to share the Reports (40%), whereas administrators tended more to pass them on to others (40%); and those holding joint administrative/faculty positions tended to discuss ideas more with others. It appears from this that again the joint position of faculty/administrator (likely the head of a teaching improvement center) is a key to distributing materials about teaching. A higher percentage of recipients in the social sciences did not share the Reports (42%), while those in the professions tended more to discuss ideas in the Reports with others. Even though no professional fields were specifically represented (except music education), the recipients of the Reports who identified themselves with a profession seemed to make substantial use of them. This suggests that ideas about teaching constitute an important benefit professionals can derive from academic disciplines.

There appeared to be little difference between recipients in public and private institutions. Those from small institutions, however, tended to share the Reports less (49%) and to discuss them less (23%) than recipients at larger institutions. Full professors tended to pass the Reports on to others (35%) and to discuss them less (25%), while lecturers and instructors exhibited a reverse trend.

There appears to be a strong relationship between the intensity with which the Reports were read and the extent to which they were shared. Those who skimmed them as they would a novel or a popular magazine tended to share them less (38%), whereas those who read them with a greater intensity tended to share them more (45%).

Table 3

Sharing of the Reports*

	Did Not Share	Passed to Others	Discussed	Wrote for Information	Other
	%	%	%	%	%
ALL RECIPIENTS	32	25	36	4	3
Position					
Faculty	40	20	34	3	3
Administrator	16	40	33	8	4
Joint	19	29	43	6	4
Rank					
Lecturer/Instructor	40	12	45	3	0
Assistant Professor	44	20	28	3	5
Associate Professor	31	21	43	4	2
Full Professor	30	35	25	7	4
Field					
Natural Sciences	33	28	30	6	4
Humanities	31	26	37	3	2
Social Sciences	42	19	31	5	3
Professions	24	26	41	4	5
Institution Type					
Public	29	26	37	5	4
Private	36	24	34	4	3
Institution Size**					
Small	49	26	23	1	1
Medium	28	28	36	5	3
Large	36	16	39	8	1
Giant	24	26	42	3	4
Super	26	29	32	5	8

*Percentages may not equal 100 due to rounding.
**These categories are taken from Harris, Seymour E., *A Statistical Portrait of Higher Education*. New York: McGraw-Hill, 1972, pp. 62-68.

Forty-six percent of the recipients reported that no activities occurred at their institutions as a direct or indirect result of the Reports. Thirty-eight percent noted informal discussions about teaching; 8 percent said policy changes with regard to teaching had occurred; and 7 percent referred to other activities such as conferences and fund-raising efforts for teaching. While no differences across subgroups were statistically significant, it appeared that of the four different disciplinary groups represented, those in the natural sciences tended to have more informal discussions (44%), while those in the social sciences appeared to have fewer. Further studies of relationships among the different groups are being made.

Recipients of the Reports expressed overwhelming agreement that mass distribution was an effective way to disseminate information on teaching improvements. Seventy-two percent of those responding held such a view. Those in the social sciences (64%) and humanities (65%) held that attitude less than did those in the natural sciences (77%) and the professions (80%).

Reactions to the Quality of the Reports

Those who received and read the Reports were asked to comment on their quality. In the opinion of most respondents, the quality of the Reports was good to excellent. The usefulness of the Reports, their layout, the technical sophistication and conceptual level of the discussions of teaching, and the overall quality of the Reports—all were rated good to excellent by at least 73 percent of the recipients.

From the open-ended comments made about Report quality came several criticisms and recommendations as to what to do "next time." Several people commented that they thought the Reports were obsolete, that the techniques highlighted were really no more effective than traditional approaches, or that teaching could not be improved by techniques as much as by enthusiasm and charisma. There was some call for improvements in the design of the articles and for more research evidence to support the worth of the approaches featured. There were also comments about the way in which the Reports might be helpful to professors. Some were pessimistic, indicating a belief that professors wouldn't change even though the Reports were available. Others commented that the Reports would have little if any impact, or that they had to be combined with administrative support in order for positive change to take place. But many thought that they should be continued, that they contained generally good variety, or that, as two respondents put it, "It's a start and we must keep trying."

Twenty-eight percent of the Report recipients indicated that their view of *Change* Magazine had been modified as a result of the Reports; they now saw it as more practical and useful to faculty in areas of day-to-day concerns. A much larger proportion of those in the professions (40%) than in the social sciences (19%) held that view, suggesting a potential new readership for *Change*. Only 5 percent of all recipients began a subscription to the magazine as a result of the Reports. Comments from Report recipients indicated that, for the most part, their opinions of the magazine had been positive before publication of the Reports and simply remained so. "I've always found *Change* Magazine useful and stimulating," said one. "These Reports merely confirm my high opinion." Positive comments exceeded negative comments by a wide margin. Most of them centered on the practicality and specificity of the Reports.

In summary, it appears that the Reports on Teaching attained a high standard of excellence, a standard already associated with *Change*. The care with which they were prepared both substantively and technically met *Change*'s own standard. Throughout the project, feedback was actively sought and constructively used, a kind of formative evaluation that seems to have been worth the effort.

Sixty-seven percent of those who received and read the Reports thought it was a good or excellent idea to have writers author the articles. However, those in different disciplines had other views. In the humanities, 56 percent believed this policy was good or excellent, a full 10 percent lower than the average, whereas almost 80 percent of those in various professions thought that using education writers was a good or excellent idea. Report recipients holding administrative posts were more in favor of having education journalists do the articles (84%) than were those holding faculty positions (63%).

In a very few instances dissatisfaction was expressed by readers of the Reports and by featured professors that education journalists were chosen to investigate and write about the programs rather than the professors involved in them. Criticism came from those who thought that the education journalists simply did not know enough about the discipline to detect what was unique and important in a teaching project. One head of a teaching center who had requested multiple copies of the Reports for distribution commented that the use of professional writers raised some doubts about the credibility of the articles. "The minute you have a free-lance journalist," he said, "the bent is more popular than professional." Another thought that although articles written by professors themselves would need editing, "no one talks about a project quite so well as one who has been involved."

Assigning independent, professional writers rather than someone directly involved with a program was consonant with *Change*'s overall editorial policy and fulfilled the original intent of the project to have programs evaluated and described by outside reporters. As George Bonham put it in the third Report: "I for one prefer the trained eye of an outside journalist to the cold analysis of a fellow pedagogue, for good teaching remains an art and not a science." There was a sense on *Change*'s part that professional journalists would be better able to translate the characteristics of programs for readers in different disciplines and thus facilitate cross-fertilization of ideas on teaching among the disciplines, something the disciplines had not been able to accomplish even within their own ranks.

More serious dissatisfaction was expressed by a few journalists when featured professors read and reacted negatively to a draft of the article before final editing. A procedure common to scholarly writing, such prior review by the subject of an article is highly atypical and even questionable in the realm of investigative reporting. The journalists' view was that they as investigators had been given an assignment to report objectively what they saw, and that the credibility of the effort would be enhanced by presenting programs "warts and all."

Change's view was that elements in the featured professors' work, in order to be effectively used by others, would have to be specific and accurate, and it

was thought that the professor himself was in a better position to determine whether this had been achieved. The second, more important point was that the professors often felt themselves to be in rather sensitive political positions. They were unwilling to have a totally "objective" presentation made of their programs because experimental and innovative programs often displease some students, and the mere reporting of this displeasure (since student reactions played an important part in the descriptions) could be used as a political weapon against the programs. Occasionally teachers proved highly sensitive to this problem, even paranoid; and *Change* sought to reduce their anxiety as much as possible. Finally, it was the clear intent of *Change* to present these examples of teaching improvement in a positive light, since national publicity was meant to be a form of reward for having been selected. It seemed incongruous to award national publicity and in the course of a public description to say things about a program that would lead others to denigrate its importance or its effectiveness.

In a few instances (very few in view of the large number of articles that were written) professors found themselves displeased with the results, concerned about the possible repercussions of comments that were included, and determined that the article should not be published without modification. In those instances, professors asked for the specific deletion of paragraphs that they thought would be misleading or negative. In only 2 out of the 100 or so articles that were written did the controversy reach serious and unpleasant proportions. These cases and all others where disagreement occurred were eventually resolved amicably. All commissioned articles were published, and virtually all reporters and professors indicated that they were satisfied with the process and with the outcomes.

The controversy is worthy of mention only as an illustration of a dilemma with wider implications. *Change* seems to have walked a tightrope between its norms as a neutral, independent commentator on the academic scene and those of the disciplines for whom open communications and the opportunity to constantly revise and refine one's work are of the utmost importance. On the one hand, *Change* decided that professors should not write about their own programs because they might tend toward self-aggrandizement at the expense of objectivity. But at the same time, *Change* intervened to control and limit its writers so that little real criticism was included.

Impact on Report Recipients

Recipients of the Teaching Reports were asked whether they had found any useful ideas about teaching in the Reports. Seventy-six percent said that they had. Of these, 40 percent discussed the ideas with colleagues; 8 percent requested more information; 13 percent suggested that others try the ideas; 25 percent planned to incorporate the ideas into their teaching; and 16 percent were actually using the ideas, trying them out in new courses or curricula or using the Reports to help counsel students about innovative programs to which they might transfer. Only 18 percent of the recipients felt that there was a greater awareness of teaching improvement at their institutions as a result of the Teaching Reports; 16 percent felt there was not; and most (65%) simply did not know.

Asked if the Reports generated a greater exchange of ideas on teaching, 21 percent said yes, 25 percent no, and 55 percent did not know. Forty-seven percent indicated that they had participated in informal discussions on improving teaching as a result of the Reports, while 28 percent indicated that their own teaching had improved as a result of the Reports. The only difference of any magnitude in responses by discipline was that more respondents in the professions (40%) than in the humanities (24%) and the social sciences (22%) indicated that their teaching had improved. A similar percentage (24%) indicated that they had observed an interest in improved teaching as a direct or indirect result of the Reports. A significantly higher proportion (38%) of those holding administrative posts reported that they had observed increased concern, more frequent discussions and use of consultative services, and actual implementation of new approaches.

One hundred and four recipients commented that their own teaching had improved: 73 were able to describe the improvement; 22 thought that their teaching had improved but not as a result of the *Change* Reports; and 9 believed that their improvement had occurred prior to the Reports. The largest number of those who were able to identify the improvement cited changes in their way of presenting materials—most often a move away from traditional lectures toward greater individualization and the use of audiovisual media, computers, and resources in the community. Those who retained the lecture format were more flexible in it and had improved their lectures by greater class participation. "Coming out from behind the lectern" allowed these professors to help students follow their thoughts and to make themselves accessible via "active solicitation of student input as part of the lecture itself."

Several respondents saw changes in their relationships with students. One claimed that his teaching had become more student oriented. Another proclaimed "a better blending of humanistic qualities with technical expertise as they pertain to student direction has occurred and will continue."

The Funding Agency

According to David Justice, the program officer at the Fund for the Improvement of Postsecondary

Education who was in charge of the Teaching Improvement Project, the articles on improved teaching reinforced the overall purposes of the Fund. He cited the view of one member of the FIPSE board of advisors who pointed out that the fact that teaching improvements were going on in "lots of different places and lots of different disciplines" seemed to underline the message that the Fund was sending by the very act of supporting individuals, institutions, and agencies seeking to improve teaching and learning. In a more indirect way, observed Justice, the *Change* project may have provided a stimulus that has led to a noticeable increase in proposals to FIPSE from disciplinary associations, proposals that deal with teaching as well as scholarship.

Change Magazine

Of the effect upon *Change* Magazine, third-year project director Joan Stableski said that "we anticipated a lot more public response." The *Change* staff had hoped that subscriptions to the magazine would rise, since the Reports were reaching a new clientele (the disciplines). But it soon became clear that no increase could be expected, since people were receiving a publication totally different from the regular issues of *Change*.

However, Stableski said that because of the project *Change* had moved into a new area of funding, namely from the federal government. The complexity of forms and proposals had increased over what was necessary when private funding was sought. That, and the burden on the *Change* staff of producing 12 issues per year instead of 10, had generated "a lot of growing pains."

This interview with Change Magazine's editor-in-chief, George W. Bonham, was conducted by telephone on the afternoon of April 12, 1978, and was subsequently edited for accuracy and completeness of views.—J. Bruce Francis

Where did the original idea for the Teaching Improvement Project come from?
The idea was a response to the continuing frustration among the more than 500,000 teaching professionals in this country who were largely unaware of effective instructional methods being employed on various campuses. I once spoke with Sam Baskin of Antioch about all the innovation conferences held during the 1960s. I added up the attendance at the major ones in a single year, and I remember saying to Sam that at that rate it would take something like 430 years to get around to every faculty person in the country. I doubted that many of them would still be around. We concluded that we simply had to deal with these important issues on a mass basis.

What purposes did you originally have in mind for the project?
We had three purposes in mind: First, we wanted to pay symbolic attention to the importance of good teaching. Featuring it in this way would serve as a counterpoint to the overshadowing value placed on scholarship in promotion and tenure decisions. Second, rather than talking theoretically about pedagogy, curricular change, and the whole question of intellectual relations with students, we wanted to present concrete examples, not to be duplicated but to be adapted to the teacher's own needs. Third, we wanted to involve the disciplinary associations. They are still the arbiters of academic success and failure, and serve many important functions, including the improvement of teaching.

What has been accomplished within the disciplines?
It varies a good deal. In 3 or 4 of the 15 major fields we examined, the collaboration has been distinguished. In about 8 others our work together has made little or no difference. In other words, they were glad to work with us, but I have not seen any follow-through. In no more than three, I would say, was our effort really a complete failure. Where it was successful, that success was political in the sense that teaching as an activity is now generally recognized in the disciplinary association—at annual meetings, workshops, and regional teaching programs.

Our effort, successful or not, is unprecedented. The scholarly disciplines are a different world: You can imagine that, for a scholarly society, working with the mass media generates certain suspicions and hostilities. Those were on the whole overcome, though it took a while.

In your proposal to FIPSE, you said that undergraduate teaching remains in "dire need of overhaul in its content, methodology, and strategies." Have your views changed in the course of the project?
Not very much. It must all sound like a broken record. I'm amazed I said that at the time; I'm rarely that farsighted. I believed—and still do—that what we need is a kind of curriculum manifesto for faculty to think very hard about making some basic fields like philosophy exciting for students again. In addition, there's really not very much professional payoff for teachers to teach better. Despite teaching awards, there is still too much evidence that when it comes to the crunch of a tenure decision, it is really only scholarship and publication that count.

What do you see as the project's accomplishments?
I will try to speak to this in a modest sense. For many of the people written up it accomplished a kind of national recognition. Often there was a great to-do made of their being featured—presidential citations, dinners, and so on. There is also direct evidence that a few disciplines, having been through this sausage

grinder with us, either intend to duplicate this effort in some form or will have a more formal activity aimed at the improvement of teaching.

Now, in terms of the overall impact, whether we have really stimulated teachers to try harder, or even to be more emotionally open to possibilities of teaching improvement, is almost impossible for me to say. It's all anecdotal and very hard to pin down. But I know there is a good deal of awareness of it.

In what ways have you been disappointed?
I should like to have seen more evidence of open-mindedness among teachers in regarding themselves as open to improvement. I also haven't seen much evidence that good teaching now is better rewarded than it was a few years ago. It is difficult to be scientific about measuring the impact of this program. It certainly has had no effect on our subscriptions.

Will Change *be carrying on its effort in relation to teaching?*
Yes. We remain committed to improving teaching effectiveness, yet we are uncertain as to how we will fulfill this commitment. We are currently trying to work out either a special section or a column that will supplement our 8 or 10 regular columns, featuring the issue of pedagogy. We also intend to publish other special issues that will deal not with the quality of teaching but with teaching content. We hope to work with the scholarly disciplines in offering one or two invitational conferences dealing with the content issue. This may well lead to the publication of a book. We are currently producing a book out of the six Teaching Reports.

METHODOLOGY

Heuristic evaluation draws upon multiple forms of information from multiple sources. Every attempt was made, within the limits of time and resources, to identify as many different perspectives on the Teaching Improvement Project as possible and to seek information about each perspective in the most efficient and effective way. Our approach has been to treat the evaluation not as a controlled experiment or a field investigation or an audit but as an exercise in analytic induction, a learning process in which we operated heuristically rather than algorithmically. The difference between the two approaches lies in the flexibility with which questions are asked, data gathered, and inferences drawn.

Algorithmic approaches, such as experimental or quasi-experimental studies using careful controls or even straightforward sample surveys, are committed to a method, a set of mathematical and/or logical rules decided upon in advance, which, if rigorously applied, will yield answers to specific, preestablished questions. Heuristic approaches, on the other hand, begin with more general questions and a flexible array of methods. Then as data accumulate and potential answers emerge, several lines of inquiry and analysis are followed simultaneously to draw a more comprehensive picture. The ultimate result is an analytic description and an interpretation, an explication of what has been learned.

Quantitative data, sampling methods, and statistical analyses were not ignored, but neither were unstructured interviews, document analyses, and case studies. The approach was to use as many different methods of examining different aspects of the program as possible from as many viewpoints as time and resources permitted.

Table 4 gives a numerical breakdown of types of information items examined during the course of the evaluation. Documents, including proposals, memoranda, and correspondence, were examined for ideas about the background and implementation of the project as well as for reactions to it. Unstructured questionnaires were sent to all professors featured in the Reports (60% response rate), to a sample of those who requested information from a featured professor (54% response rate), and to all article writers (76% response rate). These open-ended questionnaires sought written reactions to the project. Personal and telephone interviews with those who distributed multiple copies of the Reports, with featured professors, with members of the project staff, and with the advisory board were used to explore in greater depth the overall issues of the project, while site visits contributed to a sense of how the project was viewed and implemented.

Several case studies were made of individuals and institutions whose involvement with the project was more extensive or particularly revealing. Subjects for the case studies were chosen on the basis of information gleaned from the open-ended questionnaires and from telephone interviews. Site visits or lengthy

Table 4

DATA SOURCES	FORMS OF DATA* Documents Letters, etc.	Telephone Interviews	Personal Interviews	Unstructured Mail Survey	Structured Mail Survey
Teaching Report Articles	116				
Project Staff	11	1	7		
FIPSE	2	1	1		
Disciplinary Associations	18	8			
Project Advisory Board	24	4	4		
Article Writers	5			19	
Featured Teachers	125		11	65	
Individuals Requesting Information	200	8		85	
Report Distributors		65	15	71	
Report Recipients			30		496
TOTAL	501	87	68	240	496

*Numbers are data items actually examined. Response ratios to the surveys varied, and they are reported in the text.

telephone discussions yielded specific information about how the Reports were used (in cases of those who had distributed multiple copies), or information about the impact of having been written about (in cases of professors featured in the Reports). A structured questionnaire was sent to Report recipients asking about the number of Reports received and their source, the amount and intensity with which they were read, their quality, the extent to which they were shared formally and informally, and whether or not they affected teaching attitudes or behavior.

Three different groups received the structured questionnaire, each by a slightly different process. The first group was a random sample of 100 persons who had written to *Change* requesting a single copy of the Report (63% response). The second group consisted of faculty in a random sample of institutions to which multiple copies of the Reports had been sent. The person in each institution who had distributed the Reports was asked to send the questionnaires to a representative sample of those to whom the Reports had been distributed. Ninety-five different institutions were sampled in this way (67% response rate). However, the number of questionnaires returned from each institution, despite follow-up letters and phone calls, remained small. Thus, any generalizations about this group must take into account the limitations of this cluster sampling method, recognizing that each institution is represented, on the average, by relatively few respondents. From the third group, a random sample of 500 *Change* subscribers, only 18.4 percent responded; generalizations about this group would be uncertain.

There is little or no justification for assuming that the 496 persons who responded to the recipient questionnaire are typical either of academics in general or even of all those to whom the Reports were sent. Rather it is more likely that they represent those who were more aware of the project and therefore more oriented toward teaching. Most respondents were faculty (64%) at medium-size institutions (37%). They divide almost equally among the disciplinary groupings and between public and private institutions. The largest numbers came from the far West (20%), the Southeast (16%), the Mideast (16%), and the plains states (14%).

Response rates for the mail questionnaires, while providing relatively adequate coverage of the different institutions requesting multiple copies of the Reports, were still not as high within institutions as we would have wished. This was true despite extensive effort and follow-up by mail and telephone to those who had distributed the questionnaires. We were forced to conclude that the procedure of having the person who distributed the Reports also distribute the questionnaires was not totally effective. A better procedure would have been to ask each distributor for the names of those to whom Reports had been distributed and then to have approached them directly. While we might not have secured a substantially better individual response rate, we could perhaps have made a better estimate of the characteristics of those who did not respond, resulting in more generalizable inferences.

The questionnaire data were analyzed to yield simple percentages for the entire group and cross-tabulations by subgroups of the different demographic categories. Only in cases where an observed relationship would occur by chance fewer than 5 times in 100 (as shown by chi-square) are differences among subgroups discussed in the text. Additional composite analyses were made of items dealing with the quality of the Reports.

The six questionnaire items assessing recipient responses to different characteristics of the Reports were combined into a single index of quality after all were shown to be reasonable indicators of a single construct. As shown in Table 5, factor analysis of the six items yielded a single general factor on which all items loaded substantially.

Items contributing most to the construct (i.e., having the highest correlations with the factor) are those dealing with the technical sophistication and level of conceptualization of the Reports; while those

Table 5

Elements of Quality Index
(N = 388)*
Excellent (1)——Poor (4)

Report Characteristics	Mean	SD	Loading**
Usefulness of articles for improving teaching	1.94	.7	.67
Policy of having articles written by education writers rather than teachers featured	2.25	.8	.56
Layout (graphics, style, photographs, etc.)	1.97	.6	.49
Technical sophistication of description of pedagogy	2.06	.7	.78
Level of conceptualization about teaching/learning	2.06	.7	.80
General quality of writing	1.79	.6	.73

Percent of Variance Accounted for = 55%
Factor Eigenvalue = 3.27

Index (Quality) = SUM of Item Ratings/Number of Items
Total Group Mean = 12.08 SD = 3.03

Group Differences***	F	P	Nature of Differences
By Discipline	2.6	.05	Professions (+)
By Rank	1.7	.17	Not Significant
By Positions	8.0	.0004	Administrators (-)
By Public/Private	2.1	.15	Not Significant
By Intensity	5.3	.17	Not Significant

*Includes only respondents who rated all items.
**Alpha factor analysis with NO rotation.
***Significance of group differences tested by analysis of variance.

contributing least include the layout and the fact that the Reports were written by education writers. This suggests that while readers judged quality on the basis of all six Report dimensions, the most important aspects were those dealing with the substance of the Reports rather than their appearance or how they were produced. It seems reasonable that the Report's news-magazine appearance (which led a few to disdain its "slickness") had less influence on readers' perception of quality than did the content.

The quality index was constructed by summing the individual ratings for each item and dividing by the number of items. Analysis of variance was used to test differences among demographic subgroups.

Summary

The data of the project do not speak for themselves. Rather, they must be interpreted through examination of quantitative and qualitative information in the light of larger analytic constructs. These constructs derive, appropriately, from the categories of criteria that *Change* introduced in its selection of teaching improvements: *Immediate criteria*, the sense of the experience, include the feelings of those involved in each phase of the project and their general attitudes about its success or failure.

Intermediate criteria, the logical relationship between choice of procedures and objectives sought, include the appropriateness of the project selection procedures, the methods whereby courses were examined and described, the quality of the Reports, and the appropriateness of distribution methods.

Ultimate criteria, the concrete effects of the project (whether intended or not, anticipated or not), include the extent to which the Reports were distributed, discussed, and used; the extent to which ideas about teaching were influenced by them; the extent to which teachers were affected by having been featured or having received a Report; and the extent to which higher education's attention to teaching has been affected.

While it is clear that some of these effects must be inferred from survey-type data and hence are subject to their natural limitations, our inferences assume, as surveys must, the capacity and willingness of those involved in the project to observe their own reactions and behavior and to report them with reasonable accuracy.

Heuristic evaluation is not slavishly constrained by preestablished rules that determine the confidence with which one can draw conclusions. Rather, it defines rigor differently, as a conceptual rather than procedural characteristic. Algorithmic approaches view human involvement in investigations as biasing at best and contaminating at worst, and they use procedural rigor to remove human judgment as much as possible once the initial design has been completed. Heuristic methods, on the other hand, recognize the power of human judgments to distinguish the crucial from the trivial and to make inferential leaps from clues only subtly suggested by the data. Judgment is considered to be the evaluator's most important analytic tool, and rigor is the discipline of human judgment that enhances rather than diminishes its power.

Rigor, therefore, involves the use of multiple forms of data so that the weaknesses of one form can be offset by the strengths of another. Rigor also involves gathering data from multiple perspectives and comparing and contrasting those perspectives to achieve a clearer and more complete picture.

Though more precise technical terms could be found to describe heuristic evaluation, none would be more generally accurate than that it is a form of learning, high-level learning that is a part of every professional's daily life. We have sought during this inquiry in every way open to us to learn as much about the Teaching Improvement Project as we could, to try out ideas and abandon them when there was insufficient support for them, and to change emphasis as contrary or clarifying information appeared. This evaluation expresses what we have learned in as open and straightforward a manner as possible. We take full responsibility for the descriptions of what we found and the inferences we have drawn from them, knowing full well that others may disagree and that we may in fact have been wrong. As with all evaluations, such an attitude is critical if an adequate picture is to emerge. ■